



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/695,381 **Confirmation No.:** 5308

Applicants: Jene A. Golovchenko et al.

Filed: October 28, 2003

TC/A.U.: 1753

Examiner: S. H. Versteeg

Docket No.: HVD2105

For: Pulsed Ion Beam Control of Solid State Features

COMMISSIONER FOR PATENTS
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ALEXANDRIA, VIRGINIA 22313-1450

I hereby certify that this correspondence is being deposited on the date shown below with the United States Postal Service with sufficient postage as first class mail, under 37 CFR 1.8(a), in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Theresa A. Her
March 2, 2006

INFORMATION DISCLOSURE STATEMENT FILED PURSUANT
TO THE DUTY OF DISCLOSURE UNDER 37 CFR §1.56, §1.97, AND §1.98

Pursuant to the duty of disclosure under 37 CFR §1.56, §1.97, and §1.98, the Applicants request consideration of this Information Disclosure Statement.

Compliance with 37 CFR §1.97:

This Information Disclosure Statement is hereby filed with a Request for Continued Examination under §1.97 (b) at a time prior to the mailing date of a first Office Action on the merits of the application, and no fee is required. If a fee is required, please apply such to Deposit Account No. 12-1760.

Information Cited:

The Applicants hereby make of record in the instant application the information listed on the attached seven (4) pages of Forms PTO/SB/08A and PTO/SB/08B. The order of presentation of the references on the forms should not be construed as an indication of the importance of the references. A copy of each of the listed items is enclosed.

Remarks:

The instant application is a continuation-in-part of U.S. Nonprovisional Application No. 10/186,105, filed June 27, 2002. Item A32 is U.S. No. 6,783,643, the patent that issued from the USSN 10/186,105 application. Items A28, B3, and B4 were cited by the Examiner in prosecution of USSN 10/186,105. Items A9, A22, B4, B9, and B10 were cited in the International Search Report for International Application PCT/US02/20734, which is the international application counterpart to the USSN 10/186,105 application. A copy of the International Search Report for PCT/US02/20734 accompanies this Information Disclosure Statement.

Application No. 10/186,105 is in turn a continuation-in-part of U.S. Non-provisional Application No. 09/599,137, filed June 22, 2000. Item A28 is U.S. Patent No. 6,464,842, the patent that issued from the 09/599,137 application. Items A8 and A25 were cited by the Examiner in prosecution of USSN 09/599,137. Items A1, A5, A6, A8, A9, A20, A21 were cited in the International Search Report for International Application PCT/US00/17123, which is the international application counterpart to the 09/599,137 parent application. A copy of the International Search Report for PCT/US00/17123 accompanies this Information Disclosure Statement.

Items A22, B10, B11, and B12 were cited in the International Search Report for PCT/US03/34192, which is the international application counterpart to the instant application. A copy of the International Search Report for PCT/US03/34192 accompanies this Information Disclosure Statement.

The instant application is related to co-pending application USSN 10/367,075, filed February 14, 2003. Items A15, A23, and A24 were cited by the Examiner in prosecution of USSN 10/367,075.

The instant application is also related to co-pending application USSN 10/761,102, filed January 29, 2004. Item A33 is U.S. application publication No. 2004/0229386 for the USSN 10/761,102 application. Items B10, A22, A26, A27, and B6 were cited in the International Search Report for PCT/US2004/002502, which is the international application counterpart to the USSN 10/761,102 application. WO 00/79257 was also cited in this International Search Report. WO 00/79257 is the international counterpart to U.S. No. 6,627,067, item A30. A copy of the International Search Report for PCT/US2004/002502 accompanies this Information Disclosure Statement.

The instant application is also related to co-pending application USSN 10/960,176, filed October 7, 2004. Item A34 is U.S. Application Publication No. 2005/0126905 for the USSN 10/960,176 application. Items B10 and A4 were cited in the International Search Report for PCT/US2004/033086, which is the international application counterpart to the USSN 10/960,176 application. Also cited was WO 03/003446, which is the international application publication corresponding to USSN 10/186,105, issued as U.S. No., 6,783,643, provided as item A32. A copy of the International Search Report for PCT/US2004/033086 accompanies this Information Disclosure Statement.

The instant application is also related to co-pending application USSN 11/015,349, filed December 17, 2004. Item A35 is U.S. Application Publication No. 2005/0241933 for the USSN 11/015,349 application. Items A30, A36, B13, and B14 were cited in the International Search Report for PCT/US2004/042896, which is the international application counterpart to USSN 11/015,349. A copy of the International Search Report for PCT/US2004/042896 accompanies this Information Disclosure Statement.

Item A21 is a non-English language document, specifically, in German, with no translation provided. In accordance with MPEP 609 A(3), pp. 600-101, Paragraph 2, the requirement for a concise explanation of the relevance of the non-English language Item A21 document is satisfied by the submission herewith of the corresponding International Search Report in which the item was cited, the International Search Report indicating the degree of relevance of the document. On page 1 of the Search Report for International Application No. PCT/US00/17123, Item A21 is referenced and is indicated, by an "A" designation, as "defining the general state of the art which is not considered to be of particular relevance."

The Applicants respectfully request that:

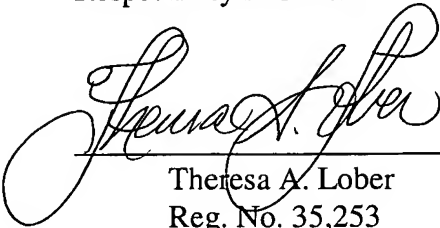
1. The Examiner consider completely the cited information in reaching a determination concerning the patentability of the pending claims;
2. The enclosed four (4) pages of Forms PTO/SB/08A and PTO/SB/08B be initialed and signed by the Examiner and a signed copy returned to the undersigned Agent to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application; and
3. The citations for the information listed on the enclosed four (4) pages of Forms PTO/SB/08A and PTO/SB/08B 1449 be printed on any patent which issues from this application.

In submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist. In submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b). In submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

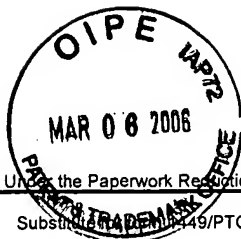
Notwithstanding any statements by the Applicants, the Examiner is urged to form his own conclusion regarding the relevance of the cited information. An early and favorably action is hereby requested.

Respectfully Submitted

Date: March 2, 2000
T. A. Lober Patent Services
45 Walden Street
Concord, Massachusetts 01742
Telephone: 978.369.2181
Facsimile: 978.369.7101



Theresa A. Lober
Reg. No. 35,253
Agent for Applicants
Customer Number 26247



PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

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Substitute Form 49/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/695,381
Filing Date	October 28, 2003
First Named Inventor	Jene A. Golovchenko
Art Unit	1753
Examiner Name	S. H. Versteeg
Attorney Docket Number	HVD2105

Sheet 1 of 4

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US- 4,455,192	06-19-1984	Tamai	
	A2	US- 4,728,591	03-01-1988	Clark et al.	
	A3	US- 4,855,197	08-08-1989	Zapka et al.	
	A4	US- 5,091,320	02-25-1992	Aspnes et al.	
	A5	US- 5,244,527	09-14-1993	Aoyagi	
	A6	US- 5,319,197	06-07-1994	Friedhelm	
	A7	US- 5,420,067	05-30-1995	Hsu	
	A8	US- 5,486,264	01-23-1996	Ghandour	
	A9	US- 5,556,462	09-17-1996	Celii et al.	
	A10	US- 5,753,014	05-19-1998	Van Rijn	
	A11	US- 5,780,852	07-14-1998	Shu	
	A12	US- 5,789,024	08-04-1998	Levy et al.	
	A13	US- 5,851,842	12-22-1998	Katsumata et al.	
	A14	US- 5,798,042	08-25-1998	Chu et al.	
	A15	US- 5,838,005	11-17-1998	Majumdar et al.	
	A16	US- 5,868,947	02-09-1999	Sakaguchi et al.	
	A17	US- 5,876,880	03-02-1999	Vonach et al.	
	A18	US- 5,893,974	04-13-1999	Keller et al.	
	A19	US- 5,962,081	10-05-1999	Ohman et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	A20	EP-0 632 494 A	01-04-1995	Mitsubishi Electric Corp.		
	A21	DE-44 33 845-A	03-28-1996	Fraunhofer Ges Forschung		
	A22	WO-00 78668-A	12-28-2000	Pres & Fellows Harvard Coll.		

Examiner
SignatureDate
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Sheet 2 of 4

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Application Number	10/695,381
Filing Date	October 28, 2003
First Named Inventor	Jene A. Golovchenko
Art Unit	1753
Examiner Name	S. H. Versteeg
Attorney Docket Number	HVD2105

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		Number-Kind Code ² (if known)			
	A23	US- 5,969,345	10-19-1999	Williams et al.	
	A24	US- 6,080,586	06-27-2000	Baldeschwieler et al.	
	A25	US- 6,106,677	08-22-2000	Sandhu	
	A26	US- 6,383,826	05-07-2002	Barsky et al.	
	A27	US- 6,426,296	07-30-2002	Okojie	
	A28	US- 6,464,842	10-15-2002	Golovchenko et al.	
	A29	US- 2003/0058799	03-27-2003	Yamakawa et al.	
	A30	US- 6,627,067	09-30-2003	Branton et al.	
	A31	US- 2003/0187237	10-02-2003	Chan et al.	
	A32	US- 6,783,643	08-31-2004	Golovchenko et al.	
	A33	US- 2004/0229386	11-18-2004	Golovchenko et al.	
	A34	US- 2005/0126905	06-16-2005	Golovchenko et al.	
	A35	US- 2005/0241933	11-03-2005	Branton et al.	
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		Country Code ³ ~Number ⁴ ~Kind Code ⁵ (if known)				
	A36	WO 2004/078640-A1	09-16-2004	Technische Universiteit Delft		

Examiner Signature	Date Considered
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		First Named Inventor	Jene A. Golovchenko		
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Sheet	3	of	4	Attorney Docket Number	HVD2105

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	B1	YOLDAS et al., "Formation of Broad Band Antireflective Coatings on Fused Silica for High Power Laser Applications," Thin Solid Films, Vol. 129, pp. 1-14, 1985.	
	B2	SHANK et al., "Fabrication of high aspect ratio structures for microchannel plates," J. Vac. Sci. Technol. B. Vol. 13, No. 6, pp. 2736-2740, Nov/Dec 1995.	
	B3	GRIBOV, et al., "A new fabrication process for metallic point contacts," Microelectronic Engineering, Vol. 35, pp. 317-320, 1997.	
	B4	ERLEBACHER et al., "Spontaneous Pattern Formation on Ion Bombarded Si(001), Phys. Rev. Letts., Vol. 82, No. 11, pp. 2330-2332, March 1999.	
	B5	DESHMUKH et al., "Nanofabrication using a stencil mask," Appl. Phys. Letts. Vol. 75, No. 11, pp. 1631-1633, September 1999.	
	B6	WALKER et al., "Focused ion beam processing for microscale fabrication," Microelectronic Engineering, Vol. 30, pp. 517-522, 1996.	
	B7	WELLOCK et al., "Giant magnetoresistance of magnetic multilayer point contacts," Phys. Rev. B, Vol. 60, No. 14, pp. 10291-10301, October 1999-II.	
	B8	DESAI et al., "Characterization of micromachined silicon membranes for immunosilation and biseparation applications," Jnl of Membrane Science, Vol. 159, pp.221-231, 1999.	
	B9	ERLEBACHER et al., "Nonlinear amplitude evolution during spontaneous patterning of ion-bombarded Si(001)," J. Vac. Sci. Technol. A., Vol. 18, No. 1, pp. 115-120, Jan/Feb 2000.	
	B10	LI et al., "Ion-beam sculpting at nanometre length scales," Nature, Vol. 412, pp. 166-169, July 2001.	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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		Filing Date	October 28, 2003		
		First Named Inventor	Jene A. Golovchenko		
		Art Unit	1753		
		Examiner Name	S. H. Versteeg		
Sheet	4	of	4	Attorney Docket Number	HVD2105

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	B11	GOSCHNICK et al., "Non-uniform SiO ₂ membranes produced by ion beam-assisted chemical vapor deposition to tune WO ₃ gas sensor microarrays," Surf. and Coat. Technol., Vol. 108-109, pp. 292-296, 1998.	
	B12	STEIN et al., "Ion-Beam Sculpting Time Scales, Phys. Rev. Lett., Vol. 89, No. 27, pp. 276106-1 - 276106-4, December 2002.	
	B13	GORDON et al., "A Kinetic Model for Step Coverage by Atomic Layer Deposition in Narrow Holes or Trenches," Chemical Vapor Deposition, Vol. 9, No. 2, pp. 73-78, 2003.	
	B14	LI et al., "DNA molecules and configuration in a solid-state nanopore microscope," Nature Materials, Vol. 2, pp. 611-614, September 2003.	

Examiner Signature		Date Considered	
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